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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/541,426	04/03/2000	Kyeong Jin Kim	8733.20102	4200
30827	7590	02/24/2005	EXAMINER	
MCKENNA LONG & ALDRIDGE LLP			NGUYEN, DUNG T	
1900 K STREET, NW			ART UNIT	
WASHINGTON, DC 20006			PAPER NUMBER	
			2871	

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/541,426

Applicant(s)

KIM ET AL.

Examiner

Dung Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Applicants' amendment dated 11/24/2004 has been received and entered. By the amendment, claims 1-57 are remain pending in the application.

Applicant's arguments with respect to claims 1 and 29 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Terminal Disclaimer***

1. The terminal disclaimer filed on 11/24/2004 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of the US Patent No. 6,654,090 has been reviewed and is accepted. The terminal disclaimer has been recorded.

#### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-5, 7-22, 24, 26, 29-33, 35-50, 52, 54 and 57 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., US Patent No. 6,256,082.

Regarding claims 1-5, 7, 11-22, 24, 26, 29-33, 35, 39-50, 52, 54 and 57, Suzuki et al. disclose a multi-domain LCD device (figure 1) comprising:

a first substrates (23) and a second substrate (33) facing each other;

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a homeotropic liquid crystal layer (i.e., pretilt angle substantially  $1^\circ$ , respect to normal line) controlled by photo-alignment layers (21, 31), wherein an alignment direction of the liquid crystal layer in one region is different from that of the other regions (see figure 1);

a pixel electrode (17) having an electric field inducing window (opening 24) in the pixel electrode, so as the pixel electrode is divided into at least two regions;

Although Suzuki et al. do not explicitly disclose a plurality of gate bus lines, data bus lines, it would have been obvious to one skilled in the art at the time of the invention was made to employ a plurality of gate/data bus line in the Suzuki et al. device in order to provide a driving data for an LCD device. In addition, Suzuki et al. do not disclose a based material for the photo-alignment layer (such as PVCN, PSCN, etc); it would have been obvious to one having ordinary skill in the art at the time the invention was made to use an alignment material selected from the group of PVCN, PSCN and CelCn based compound, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claims 8-10 and 36-38, the limitation of the gate insulating and/or the passivation layer and/or the pixel electrode are/is patterned recites a one-step process which does not further limit the structure of the claimed LCD device. Therefore, the process limitation does not have patentable weight.

4. Claims 27-28 and 55-56 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., US Patent No. 6,256,082, in view of Sugiyama et al., US Patent 5,757,455.

Regarding the above claims, the modification to Suzuki et al. does not disclose a negative uniaxial film or a negative biaxial film disposed on at least one substrate. Sugiyama et al.

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disclose a compensation film (e.g., a negative uniaxial film 49) can be formed over at least one substrate of an LCD panel (41) (see figure 10). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to form a negative uniaxial film on at least one substrate of an LCD device because it is a common practice in the art to improve contrast and/or reduce inversion, often in the same viewing areas in an LCD device (see col. 11, lines 30-41).

5. Claims 6 and 34 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., US Patent No. 6,256,082, in view of Applicant's submitted prior art, Koma et al., figure 5, "No-Rub Multi-Domain TFT Using Surrounding-Electrode Method", SID, 1995, pages 869-872.

Regarding claims 6 and 34, although Suzuki et al. do not disclose the "L-shaped" TFT in the LCD device, it would have been obvious to one skill in the art to form a TFT having a "L-shaped" as evidence from the Applicant's submitted prior art, Koma et al. figure 5 since it is well known in the art in order to increase an aperture ratio of an LCD device.

6. Claims 23 and 25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., US Patent No. 6,256,082, in view of Bos et al., US Patent No. 6,141,074.

Regarding the above claims, the modification to Suzuki et al. discloses the claimed invention as described above except for the liquid crystal layer which has a positive or negative dielectric anisotropy and chiral dopants. Bos et al. do disclose a multi-domain LCD which can be formed with a positive or negative dielectric anisotropy liquid crystal layer (see Summary of the Invention). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to form a liquid crystal layer having a positive dielectric anisotropy or negative dielectric anisotropy because the use of one conventional material over

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another merely depends on the desire of the manufacturer (i.e., homogeneous or homeotropic alignment) and/or the availability and practicality of the material for the chosen manufacturing process (see Summary of the Invention).

7. Claims 51 and 53 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., US Patent No. 6,256,082 in view of Van De Witte, US Patent No. 5,936,692.

Regarding the above claims, Suzuki et al. disclose the claimed invention as described above except for the liquid crystal layer including chiral dopants. However, Van De Witte does disclose that an LCD can be included a chiral dopant (col. 2, ln. 21). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to form a chiral dopant in an LCD device as shown by Van de Witte since it is a common practice in the art to obtain a uniform twist sense (col. 2, ln. 24).

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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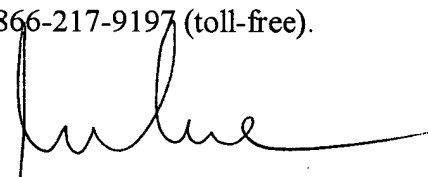
however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DN  
02/22/05



**Dung Nguyen**  
**Primary Examiner**  
**Art Unit 2871**